

REMARKS

Claims 1-24 were pending in the subject application. By this amendment, Applicant has amended Claims 1-6 and 9-24 and has cancelled Claims 7 and 8, to more particularly point out and distinctly claim the subject invention.

35 U.S.C. § 112 Rejection

Claims 1-24 have been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Applicant has amended the claims to correct the informalities. Applicant respectfully requests the Examiner reconsider and withdraw the rejection under 35 U.S.C. §112.

35 U.S.C. § 103 Rejections

Claims 1-24 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Muthu, U.S. Patent No. 6,411,046 ("Muthu"). The Examiner maintains that Muthu discloses an LED operation light device comprising plural power source drivers and a main source at an LED array producing light of different colors at different wavelengths, color temperature measuring means, and a control means for controlling power source means based on the measurement data received from the measurement means. The Examiner concedes that Muthu does not specifically state that two LED component units are used, however, the Examiner maintains that since Muthu teaches that an array of LED units are utilized, and that such array includes a plurality of LEDs in each of a plurality of colors, one of ordinary skill in the art would have found it obvious that such an array would have included at least two LED components.

Applicant respectfully traverses the above rejection.

Applicant initially notes that Muthu discloses a luminaire, which is not the same as an "operation light," let alone a dental operation light. Further, as shown in Fig. 1, Muthu measures the overall intensity of light after the mixing optics instead of directly

measuring intensities of light produced by the LEDs. Still furthermore, it should be noted that Muthu uses LEDs of different colors, such as red, green, and blue, and mixing optics to produce white light. On the other hand, the subject invention utilizes at least two white LEDs emitting different shades of white and does not use or require mixing of optics to produce white light.

Applicant has amended independent Claims 1 and 19 and the claims depending both directly and indirectly from Claim 1 and Claim 19 to specify a "dental LED operation light". There are certain requirements for the properties of the light fields to be used in connection with dental operations. Muthu is not concerned about these properties and, actually, his luminaire would fail to meet the international standards for such lamps. These properties relate to intensity, uniformity, and color rendering index as well as the shape of the light field. One skilled in the art would not use such an arrangement disclosed by Muthu comprising RGB LEDs and mixing optics to produce white light for dental operations. Muthu's arrangement emits light in all directions and would thus dazzle the patient. Further, as his arrangement emits light from a large surface, it is clear for one skilled in optics that creating a light field having the correct shape required for dental operations would be difficult, almost impossible in practice and highly inefficient. Further, should one consider modifying Muthu's luminaire by removing the mixing optics, one would be faced with another problem, namely producing color shadows, which is another feature of the light field regulated by the international standards for dental operation lights. As such, one skilled in the art of dental operation lights would immediately realize that Muthu's luminaire is not designed in view of operation light use nor could it be used in connection with dental operations as it would fail to meet the related standards.

The prior art cited by the Examiner does not disclose a dental operation light in which at least two LEDs emitting light of at least two different shades of white would be used. Regarding color rendering index, Applicant notes that the dental LED operation light of the subject invention is able to produce a light field even according to the latest dental standards for dental operation lights. Any speculative direct modification of

Muthu's construction, in an attempt to make it applicable for use as a dental operation light, would face either the problem of creating a light field of proper shape and sharp enough borders and/or that of the color shadows.

Applicant respectfully requests the Examiner reconsider and withdraw the rejections under 35 U.S.C. §103 to independent Claims 1 and 19. Applicant further requests the Examiner withdraw the rejections to Claims 2-6, 9-18, and 20-24, all of which depend directly or indirectly from independent Claims 1 and 19.

In view of the comments above and the amendments to the claims, it should be clearly appreciated that the claims herein are patentable over Muthu. Accordingly, withdrawal of the rejections and allowance of the claims is believed proper.

Reconsideration and allowance of all the claims herein is respectfully requested.

Respectfully submitted,



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